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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|------------------------|---------------------|------------------|
| 10/518,974 | 12/21/2004 | Richard Michael Taylor | 356884.00002-US | 2918 |
| 78905 7590 02/24/2009 Saul Ewing LLP (Philadelphia) Attn: Patent Docket Clerk 2 North Second St. Harrisburg, PA 17101 | | | | |
| EXAMINER | | | | |
| HUISMAN, DAVID J | | | | |
| ART UNIT | | PAPER NUMBER | | |
| 2183 | | | | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/518,974

Applicant(s)

TAYLOR, RICHARD MICHAEL

Examiner

DAVID J. HUISMAN

Art Unit

2183

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2 and 9-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 35 is/are rejected.
- 7) ☒ Claim(s) 1, 2 and 9-34 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-2 and 9-35 have been examined.

Papers Submitted

2. It is hereby acknowledged that the following papers have been received and placed of record in the file: Power of Attorney and Assignee Showing of Ownership as received on 10/6/2006, and Amendment as received on 12/15/2008.

Claim Objections

3. Claim 1 is objected to because of the following informalities:
 - In paragraph (f), applicant refers to a “predication state”. In multiple locations subsequent to paragraph (f), applicant refers to the “predication status”. Applicant is asked to replace "state" with --status--.
4. Claim 35 is objected to because of the following informalities:
 - In paragraph (f), applicant refers to a “predication state”. In the last paragraph, applicant refers to the “predication status”. Applicant is asked to replace "state" with --status--.
 - In paragraph (c), please remove the dashes from “out-of-order”.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claim 35 is rejected under 35 U.S.C. 102(b) as being anticipated by Morrison et al., U.S. Patent No. 4,847,755 (herein referred to as Morrison).

7. Referring to claim 35, Morrison has taught a method of instruction execution within a microprocessor whereby:

(a) a sequence of operations from a single execution thread and across multiple basic blocks is divided into individual strands. See Fig.5, and note that a strand (ESn) comprises multiple basic blocks (BBn), and therefore comprises operations across multiple basic blocks. The strands make up a single thread as Morrison is not a multithreaded processor.

(b) instructions from different basic blocks are assigned to different strands. See Fig.5, and note, for example, that instructions from BB0 are assigned to ES1 while instructions from BB5 are assigned to ES2.

(c) the strands are numbered at compile time to provide an implicit logical time ordering. See Fig.5 and column 4, lines 42-53, and note the numbering of the strands (ES1, ES2, etc), which is done prior to run-time (at compile-time, where compile-time is interpreted as the time before run-time).

(d) the operations within each individual strand are explicitly labeled with strand numbering and are executed sequentially. See Table 5 in column 12. Note that each instruction is explicitly

labeled with an instruction firing time (IFT), which is the time at which the associated instruction is selected for execution. The instructions are also inherently executed sequentially, i.e., one after another.

(e) certain operations from different strands may be executed out-of-order with respect to their original sequential order. Again, see Table 5 in column 12 as well as Table 1 in column 8.

Table 1 shows six instructions of a strand in original order. However, Table 5 shows that these same instructions are able to execute out of order. Similarly, instructions from a different strand may also be executed out of order.

(f) each strand has a predication state that determines whether certain operations from the strand should be completed. See column 8, Table 1, and column 37, line 62, to column 38, line 12.

Note that all strands may include a conditional branch at the end (as shown in Table 1). This conditional branch specifies a condition. If the condition is met, then a first path of instructions will be executed and a second path will not be executed. For instance, Table 1 shows a loop, and when the condition is met in the branch, the system will branch back to I0 and repeat the instructions. Consequently, it can be seen that the (N+1)th execution of I0-I4 is predicated on the Nth execution of I5. That is, if the condition of I5 in the Nth iteration is met, then it is determined that I0-I4 should be completed in the (N+1)th iteration. However, if the condition of I5 in the Nth iteration is not met, then it is determined that I0-I4 should not be completed in the (N+1)th iteration.

(g) whereby the predication status of individual strands is set upon a repeat execution such that strands that have already been completed are not re-executed. This is inherent for the reason set forth in part (f) above. Specifically, each strand that ends with a loop will experience repeated

execution while the condition of the conditional branch is not met. Once the condition is met, the strand has completed and the strand is not re-executed. Instead, a branch occurs out of the loop, as is known.

Allowable Subject Matter

8. Claims 1-2 and 9-34 are allowed.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID J. HUISMAN whose telephone number is (571)272-4168. The examiner can normally be reached on Monday-Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Chan can be reached on (571) 272-4162. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David J. Huisman/
Primary Examiner, Art Unit 2183
February 2, 2009